

Lecanora antiqua, a new saxicolous species from Great Britain, and the nomenclature and authorship of *L. albescens*, *L. conferta* and *L. muralis*

Jack Rodney LAUNDON

Abstract: *Lecanora albescens* (Hoffm.) Branth & Rostr. is the correct authorship of this species, and the combination cannot be attributed to Flörke. *Lecanora antiqua* J. R. Laundon is described for the lichen previously, but wrongly, known in Britain as *L. conferta*; it is remarkable in occupying the interface between acid and calcareous surfaces on the vertical walls of medieval churches. The nomenclature of the lobed *Lecanora*, which has had two alternative Latin names since the early 19th century, namely *L. muralis* Rabenh. and *L. saxicola* (Pollich) Ach., has been studied and the latter was found to be correct.

Key words: ecology, lichen, new species, nomenclature, taxonomy

Introduction

The genus *Lecanora* (*Lecanorales*, Ascomycota) was described by Acharius (in Luyken 1809: 90) and is one of the largest genera of crustose lichens, with about 300 species. It is easily recognized by the superficial apothecia with thalline margins, bearing *Lecanora*-type asci containing colourless simple spores of small to moderate size. Many of the species have been little studied, and, for those which have received attention, there are often problems with their variation and delimitation. This paper deals with the the authorship of *L. albescens*, the taxonomy of *Lecanora conferta*, and the nomenclature of *L. muralis*. An exclamation mark (!) indicates that the cited specimen has been critically studied.

The species

Lecanora albescens (Hoffm.) Branth & Rostr.

Bot. Tidskr. 3: 196 (1869).—*Psora albescens* Hoffm., *Fl. Germaniae* 2: 165 (1796); type: Germany, Bayern, München, Thalkirchen, on churchyard wall, December

1891, *Arnold, Lich. Monac. Exs.* 212 (H— neotype, not seen, selected by Śliwa 2006: 295).

Parmelia galactina Ach., *Meth. Lich.* 190 (1803), nom. superfluous (Art. 52.1).

This lichen is related to *Lecanora dispersa* (Pers.) Sommerf. and is recognized by its whitish superficial thallus with small lobes at the margin. For detailed accounts see Śliwa (2006, 2007). It is common on hard limestone rocks and walls where there is good illumination and nutrient enrichment.

Śliwa (2006) claimed that Flörke is the author of *Lecanora albescens*, giving the name as *L. albescens* (Hoffm.) Flörke in Flotow. Unfortunately, this is wrong because Flotow (1828: 633) actually used Flörke's name as "*Lecanora albescens* Flk. in Litt. ... ist synonym mit *Lecanora Flotoviana* Spr." so that it was cited as a synonym and was therefore not validly published under Article 34.1 of the *Code*. Nowhere did Flotow publish Flörke's text, as Śliwa (2006) claimed. Therefore the correct authors remain as Branth and Rostrup, as given above.

Lecanora antiqua J. R. Laundon, sp. nov.

MycoBank No. 518586

J. R. Laundon: 5 Donne Close, Kettering, Northamptonshire NN16 9XS, UK.

Differt a *L. dispersa* (Pers.) Sommerf. apothecii pruinosi et solutione hypochloritis calcici aurantiacum reagenti. Thallus acidum 2,7-dichloro-6-*O*-methylnorlichexanthone et 2,7-dichloronorlichexanthone continens.

Typus: Great Britain, *England*, V. C. 55, Leicestershire: Twycross church, grid SK 339 049, north wall, on limestone blocks and lime mortar, 19 January 2004, *Ivan Pedley* 2004/10 (BM—holotypus! [TLC & HPLC: 2,7-dichloro-6-*O*-methylnorlichexanthone (major), 2,7-dichloronorlichexanthone (major), 2-chloro-6-*O*-methylnorlichexanthone (minor), norlichexanthone (trace), 2-chloronorlichexanthone (trace), 7-chloronorlichexanthone (trace)].

Lecanora conferta auct. angl., non (Duby) Grognot

(Fig. 1)

Thallus of white to dingy yellowish grey (= isabelline) granules, 0.1–0.5 mm, forming a distinct thick and warty crust in places, but elsewhere scattered, or on an inconspicuous thin crust, or immersed and therefore apparently absent. Prothallus not apparent. *Photobiont* belongs to the Chlorophyta, the cells coccoid, ± spherical, up to 20 µm diam.

Apothecia 0.3–0.9 mm diam., scattered to crowded, mostly orbicular and plane, but becoming slightly convex and distorted when old, sessile. Thalline margins of apothecia *c.* 0.1 mm thick, white to dingy yellowish grey, pruinose, entire or notched, sometimes excluded when old. *Disc* usually plane but sometimes convex when old, light brownish grey to flesh-coloured, usually pruinose but sometimes naked. *Amphithecium* with abundant algae and a few crystals. *Hypothecium* colourless. *Hymenium* colourless, 50–70 µm high. *Epihymenium* narrow, 10–13 µm thick, with abundant granular crystals (insoluble in K, soluble in 50% nitric acid) to give it a brownish yellow colour. *Paraphyses* compact, thin, 1–2 µm thick, sparsely branched, broadening towards the tips, the apices colourless, not swollen. *Asci* clavate, narrow, 35–48 × 10–13 µm, eight-spored. *Ascospores* ellipsoid, simple, colourless, 11–13 × 5–6 µm.

Conidiomata not observed.

Chemistry. Thallus, apothecia margin, and disc C + bright orange-red, C + yellow, or occasionally C–, K + faint yellow or K–, P–. The positive reaction with bleach is due to

the high concentration of xanthenes whilst the occasional negative reaction indicates a low concentration. For substances see under *typus* above.

Etymology. *Antiqua*: ancient, referring to the habitat.

Taxonomy. This lichen has been called *Lecanora conferta* (Duby) Grognot in the past, despite bearing no resemblance to this species. The combination *L. conferta* was made by Grognot (1863: 61), based on *Patellaria conferta* Duby (1830: 654), described from Normandie in France “Ad muros argillaceos Neustriæ propè Bernay (cl. Le Prév.)” (Duby 1830). Bernay is in the Eure department. The holotype is in UPS! and is labelled “*Parmelia conferta*. L.E. p. 155.! In muris argillaceus Galliae occid. *Prevost.*”

In BM! there is a topotype in Malbranche, *Lich. Normandie* fasc. 5 no. 234 (1873). Both specimens are identical and agree with Duby’s description. The species has crowded, large, swollen convex apothecia, 0.5–1.5 mm diameter, with brown discs and excluded margins, which are C– and KC–. It does not belong to the *Lecanora dispersa* group, but instead resembles *L. symmicta*. The specimens are on soft rock, perhaps on a mud wall. Further work is required to establish if *L. conferta* is a distinct species.

Lecanora antiqua is identified by the colour test with bleach, which is most pronounced and often striking on the disc of the apothecia. However, some thalli are C–, apparently due to low concentrations of the xanthenes in some specimens. It closely resembles *L. dispersa*, and there is some overlap of characters. However, field studies show that they are distinct. *Lecanora antiqua* usually has pruinose discs, and the thallus occasionally forms a well-developed crust which then resembles *L. albescens*. In *L. dispersa* the apothecia are usually naked, C–, and the thallus is either immersed or thin. Moreover, *L. dispersa* occurs on “a wide range of substrata” (Śliwa 2007), in contrast to the restricted and specialized habitat of the new species. *Lecanora antiqua* is illustrated from

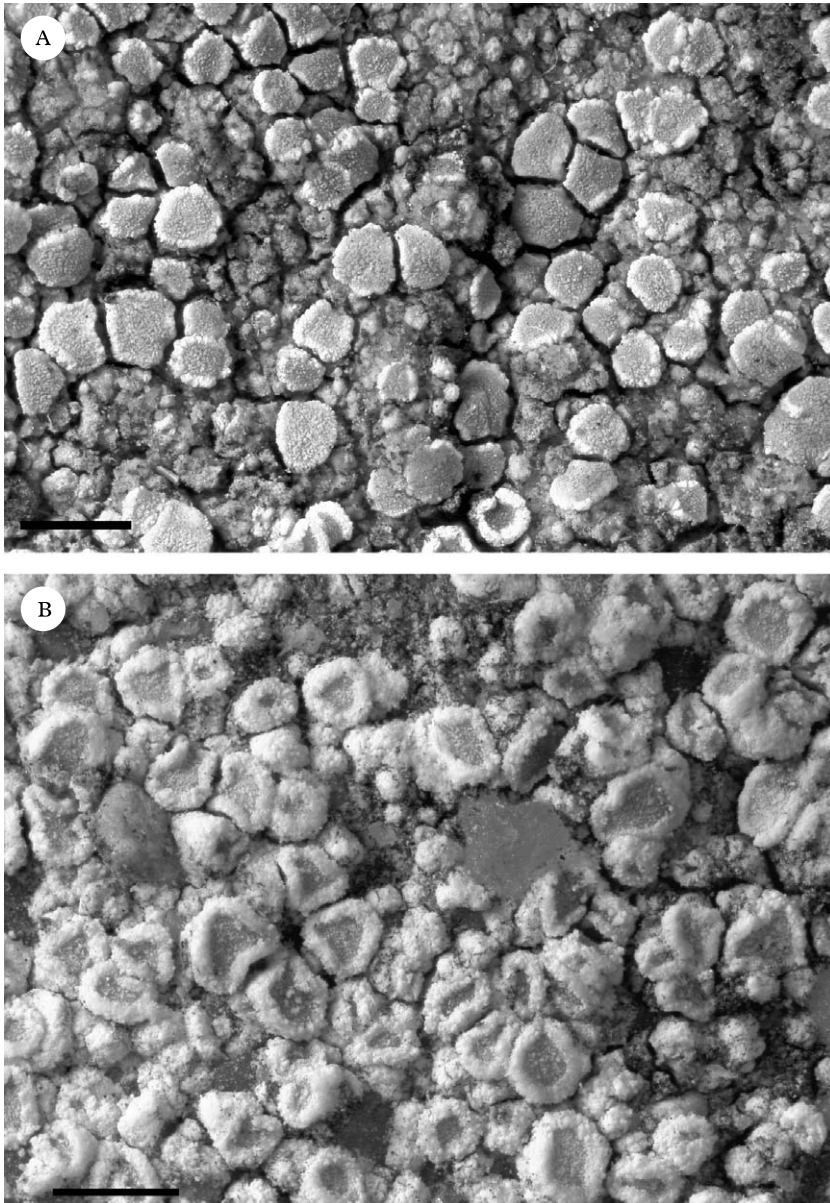


FIG. 1. A & B, *Lecanora antiqua* (holotype). Scales = 1 mm.

the church at Llanrhaeadr-ym-Mochnant in Powys in Dobson (2005: 218), as *L. conferta*.

Lecanora andrewii B. de Lesd. differs from *L. antiqua* in the possession of peltate apothecia with prominent whitish margins surrounding naked, non-pruinose, brownish, plane discs. Like *L. antiqua* it is C+, but it is

also P+ orange. *Lecanora fugiens* Nyl. differs in having a brownish yellow thallus and apothecium margins. Both look quite different from *L. antiqua*, and have a positive P reaction, containing arthothelin and often pannarin. Both inhabit acid rocks, especially at the coast. The separation of the

compounds of *L. antiqua* from other xanthenes was illustrated in Figs. 11 and 12 of Orange *et al.* (2010) (as ‘conferta-unknowns’).

First record. This lichen was first recorded in 1992 from old plaster on church walls at Thursley in Surrey and Graffham, Greatham, Rustington, and West Thorney in West Sussex by Francis Rose, reported in Brightman (1992), as *Lecanora conferta*. The original specimen from Britain, cited by Smith (1918: 280) from “near Aberdeen” (BM!) is neither *L. antiqua* nor *L. conferta* and remains unidentified.

Distribution. Common across the Midlands, extending into Lincolnshire and Yorkshire (Fig. 2). Scattered in other parts of the British Isles. No material has been seen from abroad.

Ecology. *Lecanora antiqua* is remarkable in being largely confined to the vertical walls of medieval buildings, especially churches. For example, in Warwickshire off Watling Street, it is locally abundant on the vertical north, south, and west heavily restored 13th century walls of Caldecote church, abundant on the 13th century vertical east wall of the chancel of Grendon church, and locally abundant on the angled chamfered plinth (weathering) on the 14th century north wall of the chancel at Mancetter. In West Sussex it occurs on old plaster on the walls of several churches (Brightman 1992).

On medieval walls the new species is apparently confined to the interface between acid and calcareous surfaces. Thus on Caldecote church it grows on mortar subject to acid run-off from adjoining sandstone, on an old cement coating over sandstone blocks, and on sandstone itself subject to a calcareous run-off. On Northamptonshire churches it occurs mainly on vertical ironstone, which contains a high proportion of iron oxide, where there is run-off from nearby mortar. This contrasts with the related *Lecanora crenulata* Hook., which is also typical of medieval vertical church walls, but only on

those of hard limestone where there is no acid run-off.

Additional specimens examined. **Channel Islands:** Sark: Vieux Port, WV 458 760, on east-facing gneiss wall of old stone shed, 1 viii 1999, *P. W. James* (BM!).—**Great Britain:** Wales: V.C. 35, Monmouth: Blaenau Gwent, St Andrew Tredunnoc, on church, ix 2009, *M. Powell* (hb. Powell!). V.C. 42, Brecon: Llanddew church, SO 055 307, on old red sandstone, 1998, *I. Pedley* 1998/52 & *P. W. James* (BM!); Merthyr Cynog church, SN 984 375, on lime mortar, 1998, *I. Pedley* 1998/56 & *P. W. James* (BM!).

***Lecanora saxicola* (Pollich) Ach.**

Lich. Univ. 431 (1810).—*Lichen saxicola* Pollich, *Historia Plantarum* 3: 225 (1777); type: Germany, “Circa Lauteren supra lapides, saxa ac muros ubique”, “HERBARIUM and TYPES: Unknown” (Stafleu & Cowan 1983: 330). Bayern: Fichtelgebirge, H. C. Funck, *Cryptog. Gewächse des Fichtelgebirg’s fascicle* 34 No. 701, as *Lecanora saxicola* Ach. (1829) (BM, neotype!, selected here).

Lichen muralis auct.; *Lecanora muralis* Rabenh., *Deutschl. Krypt-Flora* 2 (1): 42 (1845).

Lichen versicolor Pers., in Usteri, *Ann. Bot.* 7: 24 (1794).

A *Lecanora* readily distinguished by its greyish green appressed lobes, often with whitish pruinose margins. It is common on damp horizontal surfaces, especially on paths of asphalt and concrete in urban areas, and on asbestos cement roofs before the ban on the use of this harmful building material. In natural habitats it is mostly confined to the tops of acid rock outcrops and boulders frequented by birds. Nitrophilous, photophilous, and xerophobic. The species is often compared to unsightly discarded chewing gum, also abundant on urban pavements, giving rise to the name “chewing-gum lichen” (Smith *et al.* 2009: 491). “Pavement rosette” is suggested here as a much nicer name for this attractive organism.

Lichen muralis Schreb., *Spicil. Fl. Lips.* 130 (1771) is a superfluous name for *L. pallescens* L., *Sp. Plant.* 2: 1142 (1753) [now *Ochrolechia pallescens* (L.) A. Massal.], which Schreber cited as a synonym. Therefore the current name of this lichen, *Lecanora muralis*, is wrong and the name *L. saxicola* is correct. The contest between the two names *L. muralis* and *L. saxicola* has a long history, going

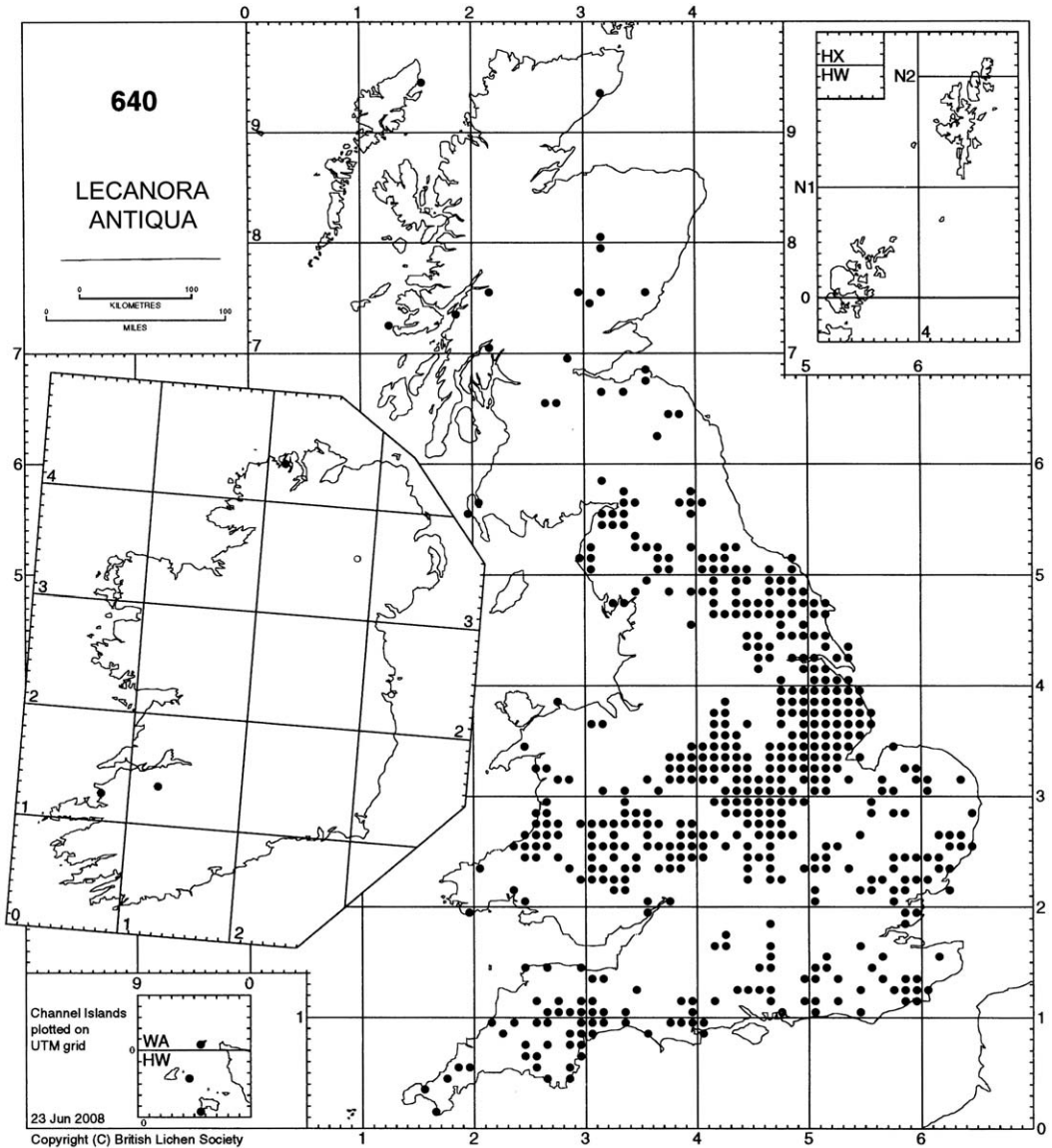


FIG. 2. The recorded distribution of *Lecanora antiqua*.

back at least to the early 19th century (Smith & Sowerby 1807: 1695), and when Rabenhorst made the combination *Lecanora muralis* he even published it as “*L. (saxicola) muralis*”. Zahlbruckner (1928: 632–644) listed some 97 uses of the name *L. muralis* in comparison with some 264 uses of *L. saxicola*. Thus historically the name *L. saxicola*

has been used more often for the species; it means the *Lecanora* rock dweller and is easily remembered. Therefore it is perhaps unnecessary to introduce formal proposals to retain the current name *L. muralis*, but it is likely that a proposal will eventually be published to conserve it under Article 14 of the Code.

Lecanora saxicola looks quite different from most other species of *Lecanora*, which are crustose as opposed to placodioid. This lead Choisy to describe a new genus called *Protoparmeliopsis* M. Choisy (1929: 524), based on only one lichen *Lecanora muralis*, but he made no new combination for the species. The genus *Protoparmeliopsis* was recognized by Hafellner & Türk (2001: 114) in their checklist of Austrian lichens, where three varieties of the unpublished "*P. muralis*" were listed.

I thank the staff of the library at the Royal Botanic Gardens at Kew for the use of their extensive literature and especially Dick Brummitt, who is the doyen of nomenclature, for examining the names in the works on *Lecanora albescens*, *L. muralis*, and *Protoparmeliopsis*, and for agreeing with my conclusions. The Natural History Museum (BM) kindly allowed me to examine their specimens. Ivan Pedley is thanked for sending me material and data, and Jack Elix is thanked for studying the chemistry of *Lecanora antiqua*. Lucyna Śliwa sent me reprints and studied the Twycross specimen but came to a different conclusion. The British Lichen Society's Mapping Recorder Mark Seaward supplied Fig. 2, Norman Robson corrected my Latin, and Frank Dobson informed me of the locality of his fine photograph. Two anonymous referees are thanked for their information and suggested amendments which have improved the paper. Alan Orange kindly photographed the type specimen of *L. antiqua*.

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